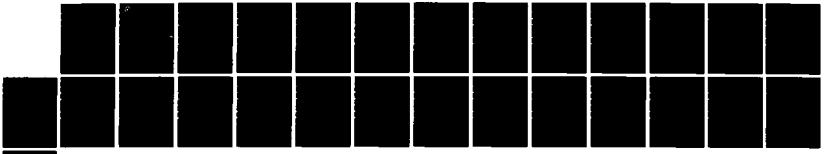
AD-A155 943 APPROVED INDEPENDENT EVALUATION PLAN FOR THE BATTLEFIELD MANAGEMENT SYSTEM I (BMS I) FDTE(U) ARMY ARMOR SCHOOL FORT KNOX KY D R BAUER ET AL. 20 MAY 85 1/1

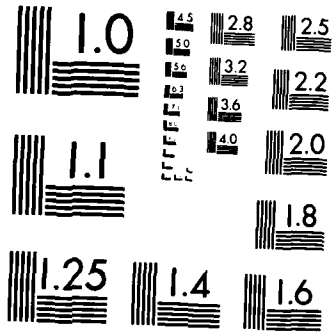
UNCLASSIFIED F/G 17/2 NL



END

FILMED

DTIC



DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY ARMOR SCHOOL
FORT KNOX, KENTUCKY 40121-5215

ATSB-CD-TE

30 MAY 1985

SUBJECT: Battlefield Management System I (BMS I) Independent Evaluation Plan (IEP)

SEE DISTRIBUTION

1. IAW TRADOC Regulation 71-9 the approved IEP for BMS I is attached for your use. IEP was approved 10 May 1985.

2. USAARMS POC is Mr. Daniel R. Bauer, AV 464-1957/2180.

FOR THE COMMANDANT:

Carol S. Wells

CAROL S. WELLS
AG Admin Asst

Encl

DISTRIBUTION:

Cdr, USATRADOC
(ATTE-ZA)
(ATTE-ZC)
(ATCD-TT)
USAOTEA (CSTE-PON)
Cmdt, USAADS (ATSA-CD-MS)
Cdr, USAAVNC (ATZQ-D)
Cmdt, USAES (ATZA-CDE)
Cmdt, USAFAS (ATSF-CD)
Cmdt, USAIS (ATSH-CD)
Cdr, USASC&FG (ATZH-BDC)
Cdr, USATSC (ATIC-DST-PM)
Cdr, USACAC (ATZL-CAT-E)
Cdr, USALOGC (ATCL-M)
Cdr, USASSC (ATZI-NCR-PS)
Cdr, USALEA (DALO-LEI)
Cdr, USASAA (ANXSY-DD)
Dir, USATRASANA (ATAA-DT)
Cdr, USATECOM (USATRADOC LNO)
Dir, USAHEL (DRXHE-D)
Cdr, USATACOM (DRDTA-A)
Cdr, USAERADCOM (DRDEL-PO/DRDEL-PA)
Cdr, USAMERADCOM (ERDME-UT)
Cdr, USAAVRADCOM (DRSAV)
Cdr, USACECOM (DRSEL)
Defense Documentation Center (DDC-TCA)
Cdr, USADESCOM (DRSDS-AS)
Cdr, USAARRCOM (DRSAR)

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. A155 993	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* APPROVED INDEPENDENT EVALUATION PLAN FOR THE BATTLEFIELD MANAGEMENT SYSTEM I (BMS I) FDTE		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) MR. DANIEL R. BAUER MR. JOHN K. BUTLER		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS DIRECTORATE OF COMBAT DEVELOPMENTS ATSB-CD-TE, USAARMS Fort Knox, KY 40121-5215		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS COMMANDANT USAARMS ATSB-CD Fort Knox, KY 40121-5000		12. REPORT DATE 20 May 1985 13. NUMBER OF PAGES 21
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*		15. SECURITY CLASS. *(of this report)* UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Automatic target acquisition
Battlefield Management
Close Combat (Heavy) Mission Area Analysis
Command & Control
Commander's Independent Thermal Viewer

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The evaluation plan briefly states the purpose and scope of the Force Development test and experiment to include the program history, system descriptions, concept of employment, issues, milestones and points of contact. This assessment is designed to permit evaluation of the operational potential and enhancements of equipping combat vehicles with a variety of systems capable of automatically collecting, processing, distributing and displaying battlefield information.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

#19

Digital data burst communications
Digital map generator
Digital tactical displays
Elevated Sensors
Land navigation system
Maneuver Force effectiveness
New Thrust
Surveillance
Vehicle Electronics
Vehicle Integrated Intelligence

APPROVED INDEPENDENT EVALUATION PLAN

FOR THE

BATTLEFIELD MANAGEMENT SYSTEM I (BMS I) FDTE

20 May 1985

BY

MR. DANIEL R. BAUER

MR. JOHN K. BUTLER

DIRECTORATE OF COMBAT DEVELOPMENTS

US ARMY ARMOR SCHOOL

FORT KNOX, KY 40121-5215

TABLE OF CONTENTS

1.0 Introduction and Background

1.1 Purpose and Scope of the Evaluation Plan (EP)

1.1.1 Purpose: This EP was directed by the CG, USAARMC to provide guidance for preparation and test design planning of a BMS FDTE. This assessment will permit evaluation of the operational potential and enhancements to company and below (fighters) Command and Control (C^2) effectiveness by equipping combat vehicles with a variety of systems capable of automatically collecting, processing, distributing and displaying battlefield information. The technologies being examined in the Battlefield Management System I (BMS I) FDTE are: Vehicle Integrated Intelligence ($V(INT)^2$), digital map generators, digital tactical displays, land navigation systems, automatic target acquisition, Automatic Target Handoff System (ATHS), Vehicle Electronics (Vetronics), digital data burst communications and the use of sensors that can be elevated. The results of this FDTE will be used to support future concept, application, and design developments for a BMS. BMS I addresses solutions to deficiencies identified in the Target Acquisition, Sensing, Tactical Communications, and Command and Control groups of the Level II Close Combat (Heavy) Mission Area Analysis (CC(H)MAA), October 1982. Completion of this concept evaluation will provide significant input for preparing an operational BMS prototype for inclusion as part of the New Thrust initiative.

1.1.2 Scope:

a. The BMS I FDTE will address the concept and operational effectiveness of vehicles equipped with systems capable of automatically collecting, processing, displaying, and distributing battlefield information within and between vehicles. The FDTE will address developmental issues to assist future combat development efforts as well as potential improvement to maneuver force combat effectiveness. Data must be accumulated to address as many issues as possible to insure maximum efficiency of expended resources. The BMS equipment will be evaluated to determine the improvement in command, control, and communications (C^3) gained by the capabilities of the equipment when operated in a BMS concept. Field trial results will be evaluated to assess the contribution of elevated sensors to increased operational effectiveness related to surveillance, reconnaissance, and target handoff/engagement. Field trials will also be evaluated to compare the results of a baseline M3 (with existing capabilities) against M3's and M1's with BMS equipment; to include a Commander's Independent Thermal Viewer (CITV) and an M3 with elevated sensors. The evaluation will consist of target acquisition and engagement events, conducted in day and night, under prevailing weather conditions (to include a complete overcast and/or moonless nights), in varying terrain, and at varying ranges with M3's and M1's against stationary and moving targets. These events will include the transfer of tactical information between vehicles to determine the impact of this information transfer on the ability of the crew

to perform its required duties, of the platoon leader to command a platoon/section, and of the M1's to engage targets.

b. Tactical scenarios utilizing simulated threat organizations will be used. The use of smoke/obscuration will follow present threat doctrine. Both offensive and defensive scenarios will be utilized to the extent that the equipment will allow.

c. Operational concepts of employment, safety, and human factors engineering will be evaluated.

d. Normal OPSEC practices will be followed during the conduct of this evaluation.

e. The objectives of the FDTE are as follows:

(1) To assess the potential improvement to force effectiveness from electronically processing and distributing command and control information.

(2) To evaluate the several operational information management and format options which are designed to optimize and automate various command and control functions.

(3) To investigate the data bit and data bit rate requirements of a platoon within a battalion distributed command and control system.

(4) To assess the operational characteristics and capabilities resulting from elevating sensor systems of close combat, command and control, and reconnaissance vehicles.

(5) To provide data on human factors and safety hazards associated with the conduct/running of the BMS I FDTE.

(6) To assess concepts of employment for the BMS I.

(7) To assess training requirements and identify special training needs for the BMS I.

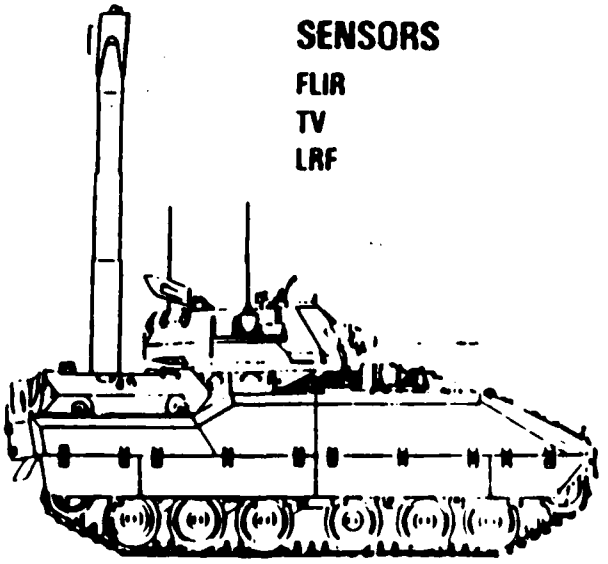
1.2 Program History.

1.2.1 There is a growing need to provide fighters at battalion, company, and below with improved means of collecting, processing, distributing and displaying battlefield information. The potential capabilities of a BMS program grew from early vehicle electronics (VETRONICS) efforts, studies, developmental testing and the requirement to find solutions to deficiencies identified in the CC(H)MAA. The application and integration of existing tech base sensors, communication,

navigation, processing and display technologies to enhance the Command and Control functions of fighting units and systems was determined to be potentially a significant combat multiplier. Coordinated efforts by TRADOC centers, AMC agencies, and industry resulted the evolution of a Battlefield Management Concept that addresses C^3, target acquisition, and fire distribution deficiencies in the existing force.

1.3 System Descriptions.

1.3.1 Night Vision and Electro Optics Laboratory's Elevated Sensor equipped M3 (see sketch).



1.3.2 Martin Marietta/FMC.

SYSTEM	MANUFACTURER
MLRS	FMC
TARGET ACQUISITION/ DESIGNATION SYSTEM (TADS)	MARTIN MARIETTA
LAND NAVIGATION	BENDIX/LITTON
DIGITAL MAP GENERATOR	HARRIS
COMMUNICATIONS	ROCKWELL COLLINS
	LITTON
PROCESSOR	MAGNAVOX
MAST	MODIFIED GTE "MAGIC MAST"
DISPLAYS	TBD

1.3.3 Texas Instrument/General Dynamics Land Systems

SYSTEM	MANUFACTURER
M1 ABRAMS	GDLS
COMMUNICATIONS	TI V(INT)^2 DATA LINK
	ROCKWELL COLLINS MP-83
	LITTON DIGITAL COMMO TERMINAL (DCT)
DISPLAYS	TBD
LAND NAVIGATION	TBD
COMMANDER'S INDEPENDENT THERMAL VIEWER (CITV)	TI

1.3.4. Texas Instruments/Geneal Dynamics Land Systems

SYSTEM	MANUFACTURER
M3 BFVS	FMC
DAY TV	VIDICON
FLIR	TI MOD TTS
LASER RANGEFINDER	TI CO_2 LASER
LAND NAVIGATION	LITTON LRN-80
DIGITAL MAP GENERATOR (DMG)	TI DEVELOPMENT SYSTEM
COMMUNICATIONS	TI V(INT)^2 DATA LINK
	ROCKWELL COLLING MP-83
	LITTON DIGITAL COMMO TERMINAL (DCT)
V(INT)^2/BCS COMPUTER (PROCESSOR)	MOTOROLA 68000
MAST	GTE "MAGIC MAST"
DISPLAYS	TBD

1.3.5 McDonnell Douglas/Emerson

SYSTEM	MANUFACTURER
AHIP MAST MOUNTED SIGHT (MMS)	MDAC
MMS PROCESSOR	MDAC
MMS POWER SUPPLY	MDAC
MCPU	SPERRY
MULTI-FUNCTION DISPLAY	SPERRY
CONTROL PANEL	
LAND NAVIGATION UNIT	LITTON
	BENDIX
VEHICLE COMMUNICATIONS SYSTEM	ROCKWELL-COLLINS
AUTOMATIC TARGET	ROCKWELL-COLLINS
HANDOVER SYSTEM (ATHS)	
M3 BFVS	FMC

Dr. Cliff Chapman	Harris Corporation Information Processing Systems Government Information Systems Division	(305) 727-5583
Mr. Xavier Minervini	Allied Bendix Aerospace Guidance Systems Division	(201) 393-2791
Mr. Jerome F. Coffel	Honeywell, Incorporated	(612) 378-4400
Mr. Bill Branch	McDonnell Douglas Astronautics Company Tactical C^3I Systems	(714) 896-4102
Mr. Bill Renner	GTE Government Systems Corporation Western Division	(415) 966-3297
Mr. Richard Stripling	Texas Instruments E-O Division, Equipment Group	(214) 995-6999
Mr. Bob Landrum	Martin Marietta Aerospace	(305) 356-2215/3220
Mr. Ron Friestad	Delco Systems Operation General Motors Corporation	(805) 961-5459
Mr. Tom Donahue	Sperry Corporation, Flight Systems	(602) 863-7236
Mr. Roger Waid	General Dynamics Land Systems Division	(313) 362-8116
Mr. Mike Grindey	Litton Data Systems	(818) 901-2053
Mr. Thomas Butler	Magnavox, Incorporated	(219) 429-5957
Mr. Fred Goulde	Rockwell International	(714) 632-4486
Mr. Phil Johnson	Honeywell Incorporated	(313) 424-3589
Mr. Dave Hoenisch	Hughes Aircraft Company	(213) 616-9315
Mr. Phil Sheaffer	Emerson Electric	(314) 553-3309
Mr. William F. Scott	Jet Propulsion Laboratory	(818) 354-5169/4740
Mr. James Moldenhauer	Jet Propulsion Laboratory	(818) 354-5169/4740

APPENDIX B

POINTS OF CONTACT

NAME	AGENCY	PHONE
Dr. Max Elliott	US Army Armor and Engineer Board US Armor Test Division	AV 464-4627/6747 (502) 624-4627/6747
Dr. Ken Hunt	US Army Armor and Engineer Board (USAARENBD) Test Design	AV 464-1911 (502) 624-1911
MAJ Steve Ellis	US Army Armor and Engineer Board (USAARENBD) Test Officer	AV 464-4627/6747 (502) 624-4627
Mr. Dan Bauer	Directorate of Combat Developments Test and Evaluation Division	AV 464-2180 (502) 624-2180
Mr. John Butler	Directorate of Combat Developments	(502) 624-3648/2251 AV 464-3648/2251
Mr. Roland Asoklis	US Army Tank Automotive Command	AV 786-5287
Mr. Gary Horley	Human Engineering Laboratory	(301) 278-5887 AV 283-5887
Mr. Jerry Klauber	USA Night Vision and Electro Optics Laboratory	(703) 664-1541 AV 354-1541
Mr. Larry Main	US Army Tank Automotive Command	AV 786-8191
Mr. Don Sarna	US Army Tank Automotive Command	AV 786-6160
Mr. Larry Dworkin	US Army Communications and Electronics Command	AV 995-4032
MAJ John Holmes	US Army Training and Doctrine Command	AV 680-3881
CPT Calvin Johnson	US Army Combined Arms Combat Development Activity	AV 552-5125
Mr. Don Gower	Army Materiel Command	(703) 790-0650
Mr. Mike Golden	Human Engineering Laboratory	AV 851-3350 AV 283-5885/5889
Dr. Ray Sidorski	US Army Research Institute	(202) 284-9046 AV 284-9046
Mr. Dick Marth	US Army Engineering Topographic Lab	AV 345-2856
MAJ Charles Williams	Defense Mapping Agency	(202) 227-2018/2029 AV 287-2018/2029
Mr. Harry Hill	Harry Diamond Laboratory	(301) 394-3124
Mr. Jim Casey	FMC Corporation Ordnance Engineering Division	(408) 289-2791
Mr. Ben Tipps	Litton Guidance and Control Division Defense Electronics Operations	(818) 715-2059
Mr. James Adelson	Rockwell International Corporation Collins Defense Communications Division Defense Electronics Operations	(319) 395-2032

APPENDIX A

BMS FDTE MILESTONES

Draft BMS O&O Plan	Feb 84
ESS Proposal to NV&EOL	Apr 84
Armor Conference/BMS White Paper	May 84
Government ESS Meeting - NV&EOL	Aug 84
Industry BMS Briefing/ADPA	Sep 84
Combat Vehicle Symposium	
TACOM/PM BMS Briefing	Nov 84
Industry BMS Conference	Nov 84
BMS CEP Resume to HQ TRADOC	21 Dec 84
BMS Executive Briefing	4 Jan 85
CEP Changed to FDTE	14 Jan 85
IEP Forwarded for Approval	25 Jan 85
IEP Approved	10 May 85
Funding Approved	Mar 85
FDTE Test Design Plan Completed	25 Jan 85
Field Trials - NVEOL System	4 Feb - 29 Mar 85
Field Trials - Martin Marietta	1 Apr - 17 May 85
Field Trials - Delco/Honeywell	20 May - 28 Jun 85
Field Trials - GDLS/TI	1 Jul - 16 Aug 85
Field Trials - McDonnell Douglas/Emerson	19 Aug - 30 Sep 85
FDTE Evaluation Report	30 Dec 85

investigated during the FDTE to assess their impact on mission performance and survivability.

2.11.2 Criteria: None. This issue is investiative in nature.

2.11.3 Rationale. Information is required for concept and systems development in the future.

2.11.4 Source. USATRADOC.

2.12 Issue: Does the BMS I present any special training requirements?

2.12.1 Scope: Training requirements will be assessed during the test to identify potential training problem areas (special facilities, expected or available manpower, etc.) and requirements for training devices. Critical tasks requiring special attention with regard to training will be identical.

2.12.2 Criteria: None. This issue is investigative in nature.

2.12.3 Rationale. Informatin is required to support possible future training requirements.

2.12.4 Source. USATRADOC.

(5) Presentation of tactical information on equipment displays.

2.9.3 Rationale. Equipment must be safe to operate in order to be effective.

2.9.4 Source. USAARMC, HEL.

2.10 Issue: Are the BMS I mast and sensor system components sufficiently durable to withstand the CFV operational environment?

2.10.1. Scope: This issue is investigative in nature. Information will be collected on failures as they occur.

2.10.2. Criteria: None. Information is being collected solely for use by each responsible government agency and individual contractor. All contractor information will be considered proprietary.

2.10.3 Rationale. Information is required to allow contractors and government agencies to correct faults in the future.

2.11 Issue: Are special employment concepts and procedures required to enhance effectiveness and survivability of the BMS I?

2.11.1 Scope: Alternative employment concepts and procedures will be

2.8.3 Rationale. BMS equipped vehicle should not be easily distinguished from other similar type vehicles.

2.8.4 Source. USAARMC.

2.9 Issue: Does the operation of elevated sensors or BMS I equipment pose any human factors engineering or safety problems?

2.9.1 Scope: This issue addresses the human factors engineering and safety characteristics during the operational use of the BMS I vehicle under field conditions, including day and night conditions.

1.9.2 Criteria: The BMS I vehicle must not present a human factors engineering problem or safety hazard during:

(1) Mounting or dismounting the vehicle.

(2) Refueling or rearming the vehicle.

(3) Maintenance.

(4) Observation of video monitors or manipulation of controls.

2.7.1 Scope: It is necessary to determine what impact the elevated sensors and BMS equipment operation will have on the "silent watch" capability of the M3 and M1.

2.7.2 Criteria: None. This issue is investigative in nature and will be calculated from engineering data provided by each participant in addition to actual measurements of power usage.

2.7.3 Rationale. On board systems should not use more power than is available.

2.7.4 Source. USAARMC.

2.8 Issue: Does the installation of elevated sensors and BMS equipment alter the visual, thermal, acoustic, and electronic signatures of the M3 by making it more readily detectable by the Threat?

2.8.1 Scope: This issue addresses the visual, thermal, acoustic, and electronic signatures of the vehicle, with and without elevated sensors and BMS equipment in operation, for comparison to the baseline vehicle signature.

2.8.2 Criteria: None. This issue is investigative in nature.

2.5.2 Criteria: None. This issue is investigative in nature.

2.5.3 Rationale. Degree of accuracy required will assist in the preparation of future requirements documents.

2.5.4 Source. USAARMC.

2.6 Issue: What is the time required to "power up" the system?

2.6.1 Scope: This issue will identify the amount of time required to "power up" the system. "Power-up" time is defined as the amount of time required for a system to go from "shut-down" (no previous use within four hours) to "turned on and mission capable."

2.6.2 Criteria: None. This issue is investigative in nature.

2.6.3 Rationale. Information is required for future systems development.

2.6.4 Source. USAARMC.

2.7 Issue: What are the operational power requirements for elevated sensors and BMS equipment?

*2.4 Issue: What data bit and data bit rates are required to support passage of platoon tactical information?

2.4.1 Scope: This issue is investigative in nature.

2.4.2 Criteria: None.

2.4.3 Rationale. Data bit and data bit rates required must be known to support possible future requirements.

2.4.4 Source. USAARMC.

2.5. Issue: To what accuracy must target location information be presented for target handoff, engagement, and command and control?

2.5.1 Scope: Modular Azimuth Positioning Systems (MAPS) will be utilized on selected friendly vehicles for providing accurate vehicle and target locations. Position and location data can be portrayed in eight digit coordinates. The eight digit coordinates will be used to determine the impact of target information upon command and control, as well as the handoff of target location and subsequent engagement. This information will be utilized to determine the accuracy and sophistication of future vehicle position and location systems for ground combat vehicles.

*2.3. Issue: Do the BMS I displays provide the commander/vehicle crew members sufficient vehicle and sensor orientation information with hatches closed to maintain tactical situation orientation?

2.3.1 Scope: Crew members must maintain orientation with respect to chassis, sensor field of view, and weapon system line of sight after multiple sensor "slewings" and chassis relocation. During the conduct of the test, the BMS I and baseline M3 crewmen will be subjected to a series of sensor slewings and vehicle maneuvers designed to disrupt orientation perceptions. These events will challenge the crew member's ability to rapidly determine tactical situation information after repeated vehicle and sensor reorientation. Assessments will measure accuracy of response and response time.

2.3.2 Criteria:

(1) Accuracy of locating targets by BMS I crewmen will be equal to or greater than that of the baseline M3.

(2) BMS I crewmen response times to locate targets will be faster than or equal to those of the baseline M3.

2.3.3 Rationale. BMS I crew members must remain oriented to be effective.

2.3.4 Source. USAARMC.

2.2.2 Criteria: The BMS I must provide the operator with the capability of:

(1) Detection, recognition, and handoff of targets at ranges equal to or greater than the vehicle equipped with the baseline M3 sighting systems for subsequent engagement by M1's.

(2) Detecting and recognizing targets in equal to or less time than the baseline M3 vehicle.

(3) Detecting and recognizing a number of targets that is equal to or greater than that with the baseline M3 vehicle.

(4) Passing target information to a firing vehicle digitally in equal to or less time than the manual FM radio capability of the baseline vehicle.

(5) Allowing the firing vehicle to detect and simulate engagement of the target in equal to or less time than the baseline manual system.

(6) Detecting targets in a full 360° Field Of Regard (FOR).

2.2.3 Rationale. BMS I capabilities must show an improvement in target acquisition and engagement.

2.2.4 Source. USAARMC.

*2.2. Issue: Does the BMS I enhance the operator's capability of detecting, recognizing and passing targets to maneuver force weapon systems for subsequent target engagement?

2.2.1 Scope: The BMS I vehicle will operate in both a target rich and target poor environment, day and night, all weather, natural and manmade obscuration, and in both offensive and defensive scenarios. An M3 CFV will serve as the baseline vehicle. Tactical scenarios, target presentations, target locations, and test areas will be varied throughout the test in an effort to prevent crew members from learning and memorizing a repeated course. Stationary and moving target arrays will include a variety of tanks, armored personnel carriers, trucks, personnel, and helicopters. Time measurements will include the time to acquire and recognize targets, time to pass target information both manually and digitally, and the time for a firing vehicle to acquire and engage targets when targets are handed off manually and digitally. The range at which targets are detected and recognized will be recorded as well as the number of targets detected and recognized. Night trials will include moonless and overcast nights to the extent possible. A variety of targets will be naturally obscurated (e.g., rain, fog, snow) and some will be obscurated by smoke grenades, smoke pots, and smoke from burning POL and rubber. Smoke will also be used where no targets exist. The Measure of Effectiveness (MOE) will be the range, number, speed, and accuracy of correct target detection/recognitions within a given period of time.

2.1.1 Scope: Tactical information includes friendly vehicle locations, enemy vehicle locations, map information, and graphics. This issue will address the capability of the experimental equipment to develop this data and to graphically present this information to the platoon leader. This process will be automated to the extent possible to increase reliability and reduce human effort and processing time. This issue will be evaluated by analysis of time lines and work effort required to present the information to the platoon leader by automation compared to existing methods. Baseline will be an M3.

2.1.2 Criteria:

a. Onboard systems will develop and display tactical information for the platoon leader more rapidly than current methods.

b. The onboard systems will develop and display tactical information for the platoon leader at least as or more accurately than current methods.

2.1.3 Rationale. BMS I capabilities must show an improvement for fighters to command and control their elements.

2.1.4 Source. USAARMC.

1.4 Concept of Employment.

1.4.1 The FDTE will allow examination of the various vehicles, their onboard systems and their capabilities as compared to standard M1's and M3's in tank and cavalry platoons in both offensive and defensive scenarios.

1.5 References. FM 17-95 Cavalry, FM 71-6, Command and Control.

1.6 Project Officer. The Project Officer for the BMS I FDTE is MAJ Wiedewitsch, Technical Developments Branch, Directorate of Combat Developments, U.S. Army Armor School, Fort Knox, Kentucky, AV 464-2335/2251.

1.7 Evaluation Officer. The Evaluation Officer for the BMS I FDTE is Mr. Daniel R. Bauer, Test and Evaluation Division, Directorate of Combat Developments, U.S. Army Armor School, Fort Knox, Kentucky, AV 464-1909/1957.

2.0 Issues and Associated Criteria. (Critical issues will be annotated with an asterisk (*)).

*2.1 Issue: Do the BMS I systems provide tactical information to the platoon leader or subscriber unit more quickly, accurately and effortlessly than current methods?

END

FILMED

8-85

DTIC